

thereon an ink nozzle for forming an inkjet and an ink reservoir for storing ink, said ink reservoir being so constructed as to be mounted upon said recording head unit detachably therefrom and carrying a vent closed by a seal member, said recording head unit carrying a stainless mesh filter on an inlet of said ink, said method comprising the steps of:

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Cont*

detachably
mounting said ink reservoir upon said recording head unit such that the ink in said ink reservoir is supplied to said recording head unit; and

[breaking] removing said seal member such that an interior space of said ink reservoir communicates directly with an exterior of said ink reservoir via said vent.

REMARKS

The application has been reviewed in light of the Office Action dated May 30, 1997.

Claims 1, 3-12 are pending in this application, which claims 1 and 12 being in independent form. By the present Amendment, claim 12 has been amended. It is submitted that no new matter has been added and no new issues have been raised by the present Amendment.

The Office Action rejected claims 1, 5, 6, 9-11 under 35 U.S.C. §103 over U.S. Patent No. 5,245,361 to Kashimura, et al. in view of U.S. Patent No. 4,931,811 to Cowger et al.

Claims 3 and 4 were rejected under 35 U.S.C. §103 Kashimura, et al., in view of Cowger, et al. and further in view of U.S. Patent No. 5,138,342 to Kurata et al., and claims 7 and 8 were rejected under 35 U.S.C. §103 over Kashimura, et al., in view of Cowger, et al and further in view of 3,708,798 to Hildenbrand et al. Claim 12 was rejected under 35 U.S.C. § 102 (b) as anticipated by U.S. Patent 4,419,678 to Kasugayama et al. Applicant has carefully

considered the Examiner's comments and the cited art, and respectfully submits that independent claims 1 and 12 are patentable over the cited art for at least the following reasons.

Independent claim 1 relates to a recording head of an inkjet recording apparatus. A recording head unit includes an ink inlet formed in communication with a passage for receiving ink, the inlet including filter means made from stainless steel mesh for eliminating particles from the ink supplied to the inlet. The recording head unit carries thereon first connection means for connecting the recording head unit to an ink reservoir. The ink reservoir carries thereon second connection means corresponding to the first connection means for connecting the ink reservoir to the recording head unit. The first and second connection means form a detachable engagement with each other.

Kashimura et al., as understood by Applicant, relates to an arrangement for positioning an ink jet recording head with "integral ink tank" when the head is mounted to a carriage. The Office Action indicates that Fig. 17 of Kashimura et al. suggests to one skilled in the art that the reservoir connected to the recording head is removable therefrom. However, a careful examination of elements 311b and 312b in Figs. 16 and 17 indicates that once the reservoir is connected to the recording head the unit is an integral unit and the reservoir is not detachable from the recording head. That is, once the first guide part 311b is accepted to the opening of the second guide part 312b, the first guide part 311b is not removable from the second guide part 312b. It is noted that as described in Kashimura et al. at column 18, lines 19-27, the purpose of the connection described with respect to Fig. 17 is so that the connection can be made without requiring any step such as adhesion. That is, as understood by Applicant, the

union is intended to be permanent without requiring the use of an adhesive. Since there is no teaching or suggestion in Kashimura et al. of any mechanism for disengaging guide part 311b from 312b it is submitted that Kashimura et al. provides no teaching or suggestion of an ink reservoir unit mounted to recording head unit in detachable engagement.

As noted in the Office Action, Kashimura et al. provides no teaching or suggestion of a stainless mesh filter. The Office Action cites Cowger et al. as disclosing a wire mesh filter and indicates that it would have been obvious to incorporate the filter into Kashimura et al. for preventing air bubbles and hence dust particles from entering the recording head.

Cowger et al., as understood by Applicant, relates to a thermal ink jet pen. A wire mesh filter 26 is provided between an ink storing tank and a standpipe. The screen serves as a capillary stop to prevent air int the foam from being drawn down into the standpipe.

However, Applicant finds no teaching or suggestion in the cited art to provide a wire mesh filter such as shown in Cowger et al., in the device of Kashimura et al. in which the ink reservoir and recording head unit are not detachable. Only in the present invention, in which the ink reservoir and recording head unit are detachable, does the problem of condensation of the ink and the corresponding need to remove particles by use of a mesh filter arise. The device of Kashimura et al. is inherently free from the problems addressed by the present invention. Accordingly, Applicant submits there would have been no motivation to provide a filter as in Cowger et al. in the device of Kashimura et al.

Accordingly, Applicant submits independent claim 1 is patentable over the cited art.

In addition, Applicant submits independent claim 12 is also patentable over the cited art. Independent claim 12 relates to a method for recording an image. An ink reservoir is

constructed as to be mounted upon the recording head unit detachably therefrom. The recording head unit carries a stainless mesh filter on an inlet of the ink. The method comprises mounting the ink reservoir upon the recording head unit and removing the seal member such that an interior space of the ink reservoir communicates directly with an exterior.

In Kasugayama et al., as understood by Applicant, a needle shaped pipe breaks an elastic seal in the ink container so that the interior of the reservoir communicates via the vent with the atmosphere. In contrast, as recited in independent claim 12, the seal member is “removed” such that the interior space of the ink reservoir communicates “directly” with the exterior. Accordingly, Applicant submits independent claim 12 is patentably distinct from Kasugayama et al.

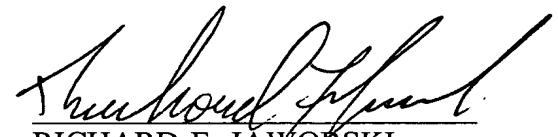
The Office is hereby authorized to charge any additional fees which may be required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our deposit account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Entry of this amendment and allowance of this application are respectfully requested.

Respectfully submitted,



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